

Table HE: Potential adverse health effects from high/long-term exposure to hazardous chemicals in drinking water (EPA, 2002; ATSDR 2002)

CONTAMINANT	MCL, mg/L	POTENTIAL ADVERSE HEALTH EFFECTS
1,2-Dichlorobenzene	0.6	Some people who drink water containing 1,2-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.
1,3-Dichlorobenzene	----	Not Available
Aluminum	----	Low-level exposure to aluminum from food, air, water, or contact with skin is not thought to be harmful to health. Infants and adults who received large doses of aluminum as a treatment for gastrointestinal or kidney illnesses developed bone diseases, which suggests that aluminum may cause skeletal problems.
Arsenic	0.01	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Atrazine	0.003	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
Barium	2	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Benzene	0.005	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Bromate	0.010	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
Bromodichloromethane	See TTHMs	See TTHMs
Bromoform	See TTHMs	See TTHMs
Cadmium	0.005	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
Chlorinated straight-chain aliphatic hydrocarbons	----	Not Available

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Chloramines	4.0 ¹	Some people who use water containing chloramines well in excess of the maximum residual disinfectant level (MRDL) could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.
Chlorinated aromatics	----	Not Available
Chlorine	4.0 ¹	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Chlorite	1.0	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
Chloroform	See TTHMs	See TTHMs
Chromium	0.1	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Diazinon	---	There is no evidence that long-term exposure to low levels of diazinon causes any harmful health effects in people. Exposure to diazinon is most significant in people who work in the manufacture and professional application of this insecticide. Symptoms of very high exposure include headache, dizziness, weakness, feelings of anxiety, constriction of the pupils of the eye, and not being able to see clearly.
Diesel products	----	Not Available
Dichloroacetic acid	See HAA5	See HAA5
Dichloromethane	0.005	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.

¹Maximum residual disinfectant level (MRDL)

CONTAMINANT	MCL, mg/L	POTENTIAL ADVERSE HEALTH EFFECTS
Ethylbenzene	0.7	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
Gasoline	----	At high levels, gasoline is irritating to the lining of the stomach when swallowed. Exposure to high levels may also cause harmful effects to the nervous system.
HAA5 (Sum of 5 haloacetic acids, including dichloroacetic acid)	0.060	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Lead	0.015 ²	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
Natural gas		Not Available
Nitrate	10 (as N)	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome. ³
Nitrite	1 (as N)	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome. ³
Oil	----	Not Available
Petroleum products	----	Not Available
Phenolic compounds	----	Not Available
Prometon	----	Not Available
Simazine	0.004	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.

² Action level

³ Adverse health effects can occur from high/short-term exposure to nitrate and nitrite.

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CONTAMINANT	MCL, mg/L	POTENTIAL ADVERSE HEALTH EFFECTS
Tetrachloroethylene (PERC, perchloroethylene, PCE)	0.005	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
Toluene	1	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
Trichloroethylene (TCE)	0.005	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
TTHMs (Total trihalomethanes)	0.080	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.
Vinyl chloride	0.002	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
Xylenes	10	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.

References:

For chemicals with MCLs: US EPA (2002). 40 CFR - Chapter I - Part 141. Appendix B to Subpart Q of Part 141 -- Standard Health Effects Language for Public Notification.

For chemicals with no MCLs: ATSDR (2002) Agency for Toxic Substances and Disease Registry. ToxFAQs. Available at: <http://www.atsdr.cdc.gov/toxfaq.html>

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